

ABSTRACT

An ion thrusting system is disclosed comprising an ionization membrane having at least one area through which a gas is passed, and which ionizes the gas molecules passing therethrough to form ions and electrons, and an accelerator element which accelerates the ions to form thrust. In some variations, a potential is applied to the ionization membrane 5 which may be reversed to thrust ions in an opposite direction. The ionization membrane may also include an opening with electrodes that are located closer than a mean free path of the gas being ionized. Methods of manufacture and use are also provided.